

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: HIGUERA-CIAPARA et al. Examiner: To Be Determined  
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Filed: Herewith (22 February 2005) Docket No. 73294-010200  
Title: **LOW-CHOLESTEROL SHRIMP AND METHOD OF OBTAINING SAME**

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By:   
Marie M. Nuguid

PRELIMINARY AMENDMENT

MAIL STOP PCT (DO/EO/US)  
Commissioner for Patents  
Alexandria, Virginia 22313-1450

Sir:

INTRODUCTORY COMMENTS

Please cancel Claims 1 to 9 and replace with the following complete listing of claims.

10. (NEW) A process for obtaining a low-cholesterol whole shrimp comprising:
- to provide a plurality of frozen, peeled and deheaded shrimps;
  - to freeze drying the whole shrimps to a humidity content of approximately 1 to 10%;

- c. to extract the cholesterol from the dehydrated shrimps by means of a stream of a supercritical solvent which is selective to lipids, at a temperature between 36-39°C and at a pressure between 275-345 bar;
- d. to rehydrate the shrimps in a vacuum chamber with water in a relationship of about 1-10mL per gram of shrimp at vacuum and room temperature; and
- e. to cook said plurality of whole shrimp with steam.

**11. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 1, characterized in that the shrimp is selected from U/10, U/12, U/15, 16/20, 21/25, 26/30, 31/35, 31/40, 36/40, 41/50, 51/60, 61/70, 71/80 and over 80, preferably size 16/20.

**12. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 1, characterized in that the dehydration of shrimp is performed by a freeze drying process comprising:

- a. To introduce the frozen shrimps into a quick freezing system at an initial temperature of -40°C;
- b. To provide a vacuum of 0.1 mm Hg;
- c. To set the following conditions

Temperature	Time
°C	hours
-29	1
0	1
50	4-5
35	15-20
25	1-3

**13. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 3, characterized in that the time for the step at 50°C depends on the level of vacuum achieved, which should not exceed 0,2 mm Hg.

**14. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 3, characterized in that the time for the step at 35°C depends on when the shrimp reach a maximum temperature of 5 to 10 °C.

**15. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 3, characterized in that the time for the step at 25°C depends on when the internal shrimp temperature becomes the same as that on their surface.

**16. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 1, characterized in that the shrimps are dehydrated to a humidity content between 1 to 5%.

**17. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 1, characterized in that the supercritical solvent is CO<sub>2</sub> supercritical.

**18. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 1, characterized in that supercritical solvent is CO<sub>2</sub> supercritical at 310 bar pressure and 37°C temperature.

**19. (NEW)** The process for obtaining low-cholesterol whole shrimp according to claim 1, characterized in that shrimps are rehydrated under a vacuum at least of 533,4 mm Hg by about 1-5 hours.

**20. (NEW)** The low-cholesterol whole shrimp obtained by the process of any of claims 1 to 10.